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Patent

¹
~~20~~ (New) A charge holder for accepting an explosive charge in a case, said charge holder comprising:

a loading tube including at least one hole disposed through a wall of said loading tube, said hole having a circumference defining at least one tab;

wherein said case further comprises a first and second ridge defining a groove between, and a flat on the second ridge to allow the at least one tab access to said groove.

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~~21~~ (New) The charge holder of Claim ~~20~~¹ wherein said case comprises a rear ridge.

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~~22~~ (New) The charge holder of Claim ~~20~~¹ wherein said case further defines a cord retainer for retaining a detonation cord.

⁴
~~23~~ (New) The charge holder of Claim ~~22~~³ wherein the circumference has a diameter approximately equal to a diameter of the first ridge.

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~~24~~ (New) The charge holder of Claim ~~22~~³ wherein said tab has a length approximately equal to a depth of the groove.

REMARKS

Claims 1-24 are now pending in the present application. Claims 4, 6, 11, 13, and 19 were amended and claims 20-24 are new. Applicant has carefully studied the outstanding Office Action. The present Response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of this application are respectfully requested.

Applicant has submitted a proposed correction in red ink to the drawings, labeled Figures 6 and 7, as suggested by the Examiner. These changes will be incorporated into a formal set of drawings upon approval of the proposed changes by the Examiner.

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No new matter has been added by any of the amendments to the specification. Applicant respectfully requests reconsideration and withdrawal of the Examiner's objections and rejections in view of the foregoing amendments and following remarks.

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CLAIM OBJECTIONS**Claim 4**

The Examiner objected to claim 4 for lack of clarity and for being dependent upon a rejected base claim. As for lack of clarity, claim 4 has been amended to include "(a flat) surface positioned on a portion of the second ridge," as Examiner suggested. As for being dependent upon a rejected base claim, in view of the foregoing and subsequent amendments and remarks, all of the claims are believed to be allowable.

Claim 11

The Examiner objected to claim 11 for lack of clarity. Accordingly, claim 11 has been amended to include "(a flat) surface positioned on a portion of the second ridge," as Examiner suggested.

Claims 6 and 13

The Examiner objected to claims 6 and 13 for lack of clarity. Accordingly, claims 6 and 13 have been amended to include "(the circumstance) of the at least one hole," as Examiner suggested.

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CLAIM REJECTIONS – 35 U.S.C. § 112, Second Paragraph**Claim 19**

The Examiner rejected claim 19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. In particular, the Examiner specified there was insufficient antecedent basis for the limitation of “the carrier holder” in Claim 19. Claim 19 has been amended to depend on Claim 18.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejection based upon 35 U.S.C. § 112, second paragraph.

CLAIM REJECTIONS – 35 U.S.C. §103(a)**Claims 1-3, and 5-7**

The Examiner rejected Claim 1 under 35 U.S.C. §103(a), as being unpatentable over Blair, U.S. Patent 3,078,797 (Blair), in view of Parrott, U.S. Patent 5,862,758 (Parrott). The Examiner asserts that Blair discloses a charge holder with a hole for accepting a charge case, where the hole has a circumference defining at least one tab.

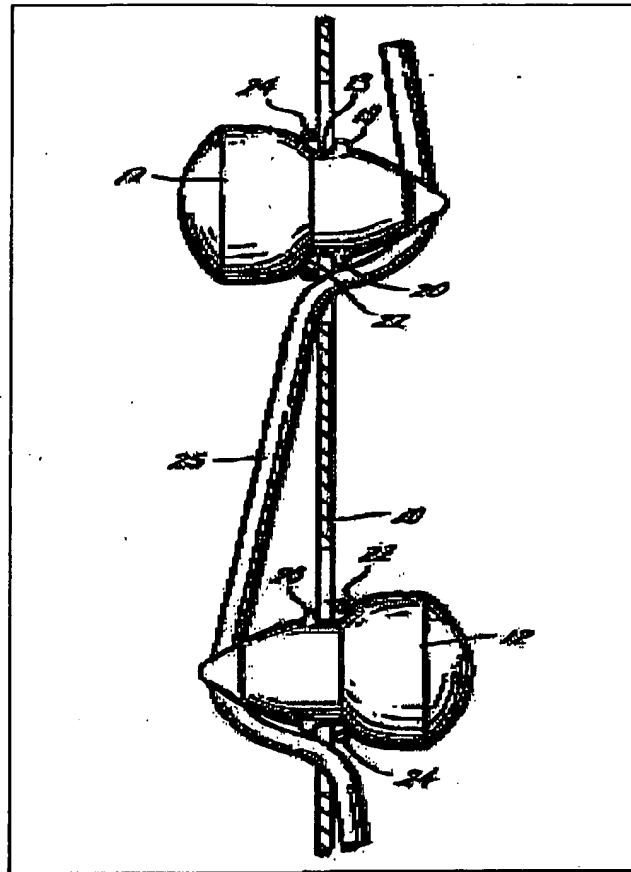
Claim 1 is non-obvious despite the teachings of Blair in view of Parrott. Neither Blair nor Parrott disclose a loading tube having a hole with a circumference defining at least one tab. Rather, Blair discloses a charge case with tabs. Apertures or holes in a charge holder receive said charge case and include slots or recesses for receiving said tabs. Likewise, Parrott also places the tabs on the charge case. The present invention discloses a tab that is designed into the circumference of an aperture of the loading tube.

Figure 1 from Blair is reproduced below. Note that Blair requires an elastomeric ring 24 to secure the charge holder. Clearly, Blair did not consider the tab/slot arrangement alone suitable. The lack of a need for this elastomeric ring is one significant improvement of the present invention over Blair. Not only does the need for the ring add steps in assembling and disassembling the apparatus, but it is well known that an elastomeric ring is susceptible to degradation in the extreme downhole environment of a well.

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Absent the Examiner pointing out some teaching or incentive in the cited prior art to make use of a tab designed into the circumference of a hole in a loading tube, one of ordinary skill in the art would not be led to modify Blair in view of Parrott to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion, or incentive to modify Blair in view of Parrott in this manner, the presently claimed invention can be reached only through an improper use of hindsight using the applicants' disclosure as a template to make the necessary changes to reach the claimed invention.



Claims 8 -14 and 15-17

The Examiner rejected Claims 8 -14 and 15-17 under 35 U.S.C. §103(a), as being unpatentable over Blair, U.S. Patent 3,078,797 (Blair), in view of Parrott, U.S. Patent 5,862,758 (Parrott). The Examiner asserts that "Blair in view of Parrott teaches the invention and the method of use substantially [] claimed."

Claims 8-14 and 15-17 are non-obvious despite the teachings of Blair in view of Parrott. Blair does not disclose a hole with a circumference defining at least one tab, rather, Blair discloses a charge container with tabs. Apertures in a charge holder receive said charge container

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and include slots or recesses for receiving said tabs. In contrast to Blair, the presently claimed invention discloses a tab that is designed into the circumference of an aperture of a charge holder.

Although Parrott specifically refers to a loading tube, it, like Blair, discloses tabs or lugs on a charge container and slots in an aperture of a charge holder. Absent the Examiner pointing out some teaching or incentive to make use of a tab designed into the circumference of a hole in a charge holder, where said tab secures the charge container by fitting into a groove in the container, one of ordinary skill in the art would not be led to modify Blair in view of Parrott to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion, or incentive to modify Blair in view of Parrott in this manner, the presently claimed invention can be reached only through an improper use of hindsight using the applicants' disclosure as a template to make the necessary changes to reach the claimed invention.

Claims 18-19

The Examiner rejected Claim 18 under 35 U.S.C. §103(a), as being unpatentable over Blair, U.S. Patent 3,078,797 (Blair), in view of Parrott, U.S. Patent 5,862,758 (Parrott). The Examiner asserts that "Blair discloses loading a carrier holder with an explosive charge as claimed whereby the case is rotated to capture the tab within the groove."

In Claim 18, the present invention claims a "hole having a circumference defining at least one tab; and wherein the case has a groove for accepting the tab." The presently claimed invention specifies that the groove is a part of the charge case and the tab is a part of the circumference of the hole. In contrast, Blair does not disclose any groove, much less one designed within the diameter of the charge case. In addition, the tabs disclosed in Blair protrude from the diameter of the charge case and are not a part of the circumference of the hole.

Designing a groove into a charge case and a tab into the circumference of a hole are significant improvements of the presently claimed invention over the prior art. Absent the Examiner pointing out some teaching or incentive to make use of a tab designed into the circumference of a hole in a charge holder, where said tab secures the charge case by fitting into a groove within the diameter of the case, one of ordinary skill in the art would not be led to modify Blair in view of Parrott to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion, or incentive to modify Blair in view of Parrott in

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this manner, the presently claimed invention can be reached only through an improper use of hindsight using the applicants' disclosure as a template to make the necessary changes to reach the claimed invention.

CONCLUSION

Applicant has adopted the Examiner's suggestions and believes the claims are in condition for allowance. It is respectfully urged that the subject application is patentable over references cited by Examiner and is now in condition for allowance. Applicant requests consideration of the application and allowance of the claims. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is cordially invited to contact David W. Carstens at 972.367.2001.

The Commissioner is hereby authorized to charge any additional payments that may be due for additional claims to Deposit Account 50-0392.

Respectfully submitted,

By: 

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Date: November 7, 2001
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VERSION WITH MARKINGS TO SHOW CHANGES MADE:**In the Claims**

4. (Amended) The charge holder of Claim 3 wherein said case further comprises a flat surface positioned on a portion of the second ridge to allow the at least one tab access to said groove.
6. (Amended) The charge holder of Claim 3 wherein the circumference of the at least one hole has a diameter approximately equal to a diameter of the first ridge.
11. (Amended) The perforation gun of Claim 10 wherein said case further comprises a flat surface positioned on a portion of the second ridge to allow the at least one tab access to said groove.
13. (Amended) The perforation gun of Claim 10 wherein the circumference of the at least one hole has a diameter approximately equal to a diameter of the first ridge.
19. (Amended) The method of Claim 18 further comprises placing a cover over the charge holder before lowering the carrier holder into the well.
20. (New) A charge holder for accepting an explosive charge in a case, said charge holder comprising:
a loading tube including at least one hole disposed through a wall of said loading tube, said hole having a circumference defining at least one tab;
wherein said case further comprises a first and second ridge defining a groove between and a flat on the second ridge to allow the at least one tab access to said groove.
21. (New) The charge holder of Claim 20 wherein said case comprises a rear ridge.

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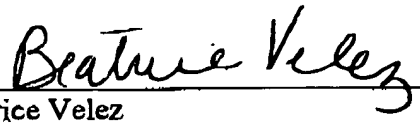
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22. (New) The charge holder of Claim 20 wherein said case further defines a cord retainer for retaining a detonation cord.
23. (New) The charge holder of Claim 22 wherein the circumference has a diameter approximately equal to a diameter of the first ridge.
24. (New) The charge holder of Claim 22 wherein said tab has a length approximately equal to a depth of the groove.

CERTIFICATE OF MAILING BY EXPRESS MAIL

I hereby certify that the documents listed below are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service, Mail Label No. EL750680852US, addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231, under 37 CFR 1.10, on November 7, 2001.


Beatrice Velez

Enclosures: Transmittal in Duplicate

Response to Office Action dated August 7, 2001

Check in the amount of \$156.00

Express Mail Certificate

Postcard Acknowledgment

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